Claims

1. A data switch having a plurality of ingress ports and egress ports connected by a switching fabric, the switch having a plurality of ingress queues for queuing data derived from data packets arriving at the ingress ports, the switch further comprising broadcast packet estimation means for deriving a measure of the length of at least one of the queues and using it to obtain a measure of the frequency of arrival of broadcast packets.

2. A data switch according to claim 1 in which the broadcast packet estimation means determines the measure of the frequency of arrival of broadcast packets as the length of the longest of the queues.

3. A data switch according to claim 1 or claim 2 further including a broadcast packet control means for deleting at least some of the broadcast packets when the broadcast packet estimation means indicates that the measure of the frequency of arrival of broadcast packets is above a first predetermined level.

4. A data switch according to claim 3 in which the broadcast packet deletion means is arranged to cease deleting packets when the broadcast packet estimation means indicates that the measure of the frequency of arrival of broadcast packets is below a second predetermined level.

5. A method of operating a data switch having a plurality of ingress ports and egress ports connected by a switching fabric, the switch having a plurality of ingress queues for queuing data derived from data packets arriving at the ingress ports, the method comprising:

deriving a measure of the length of at least one of the queues; and

using the measure of the length of at least one of the queues to obtain a measure of the frequency of arrival of broadcast packets.

6. A method according to claim 5 in which the measure of the frequency of arrival of broadcast packets is the length of the longest of the queues.

7. A method of according to claim 5 or claim 6 further including, when the measure of the frequency of arrival of broadcast packets rises above a first predetermined level, commencing deleting at least some of the broadcast packets.

8. A method according to claim 7 further including ceasing to delete packets when the measure of the frequency of arrival of broadcast packets falls below a second predetermined level.

AMENDED CLAIMS
[received by the International Bureau on 20 October 2003 (20.10.03);
original claims 1-8 replaced by new claims 1-8 (2 pages)]

Claims

1. A data switch having a plurality of ingress ports and egress ports connected by a switching fabric, the switch having a plurality of ingress queues for queuing data derived from data packets arriving at the ingress ports, the switch being characterised by further comprising: broadcast packet estimation means for deriving a measure of the length of at least one of the queues and using it to obtain a measure of the frequency of arrival of broadcast packets; and a broadcast packet control means arranged to be triggered according to the measure of the frequency of arrival of broadcast packets into a broadcast storm control mode in which the broadcast packet control means performs broadcast storm control.

2. A data switch according to claim 1 in which the broadcast packet estimation means determines the measure of the frequency of arrival of broadcast packets as the length of the longest of the queues.

3. A data switch according to claim 1 or claim 2 in which the broadcast packet control means is arranged to perform the broadcast storm control by deleting at least some of the broadcast packets when the broadcast packet estimation means indicates that the measure of the frequency of arrival of broadcast packets is above a first predetermined level.

4. A data switch according to claim 3 in which the broadcast packet deletion means is arranged to cease deleting packets when the broadcast packet estimation means indicates that the measure of the frequency of arrival of broadcast packets is below a second predetermined level.

5. A method of operating a data switch having a plurality of ingress ports and egress ports connected by a switching fabric, the switch having a plurality of ingress queues for queuing data derived from data packets arriving at the ingress ports, the method comprising:

deriving a measure of the length of at least one of the queues;

and characterised by:

using the measure of the length of at least one of the queues to obtain a measure of the frequency of arrival of broadcast packets; and

according to the measure of the frequency of arrival of broadcast packets triggering a broadcast storm control mode in which broadcast storm control is performed.

6. A method according to claim 5 in which the measure of the frequency of arrival of broadcast packets is the length of the longest of the queues.

7. A method of according to claim 5 or claim 6 in which the broadcast storm control mode is triggered when the measure of the frequency of arrival of broadcast packets rises above a first predetermined level, and the broadcast storm control is by deleting at least some of the broadcast packets.

8. A method according to claim 7 further including ceasing to delete packets when the measure of the frequency of arrival of broadcast packets falls below a second predetermined level.